

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application:

Claim 1–14 (cancelled).

Claim 15 (currently amended): The method of claim ~~14–30~~ wherein the launch is collinear with an axis of the multimode fibre.

Claim 16 (currently amended): The method of claim ~~14–30~~ wherein the signal is provided by a transverse mode laser transmitter.

Claim 17 (currently amended): The method of claim ~~14–30~~ wherein the launch comprises a single transverse mode laser coupled to a single mode fibre pigtail in communication with a graded-index multimode fibre using a mode-conditioning patchcord.

Claim 18 (currently amended): The method of claim ~~14–30~~ wherein the launch comprises a laser receptacle package coupled to a graded-index multimode fibre where the axis of the optical output from a single transverse mode laser has been offset from that of the fibre.

Claim 19 (currently amended): The method of claim ~~14–30~~ wherein the multimode fibre has a core diameter of 62.5 μm and wherein the coupling step comprises using a launch having an offset distance measured from the centre of the multimode fibre core to the centre of the optical radiation emitted from the transmitter of approximately 10 μm to approximately 30 μm .

Claim 20 (previously presented): The method of claim 19 where the offset distance measured from the centre of the multimode fibre core to the centre of the optical radiation emitted from the transmitter is approximately 23 μm to approximately 30 μm .

Claim 21 (currently amended): The method of claim ~~14–30~~ wherein the multimode fibre is selected from the group consisting of fibre installed within a building, uninstalled fibre, silica fibre, plastic fibre, fibre with multiple splices, fibre with multiple connectors, fibre with low specified bandwidth, and fibre with high specified bandwidth.

Claim 22 (cancelled).

Claim 23 (currently amended): The ~~radio frequency optical communication distributed antenna~~ system of claim ~~22–31~~ wherein the laser transmitter is a single transverse mode laser transmitter.

Claim 24 (currently amended): The ~~radio frequency optical communication distributed antenna~~ system of claim 22-31 wherein the launch restricts the number of modes excited in the fibre.

Claim 25 (currently amended): The ~~radio frequency optical communication distributed antenna~~ system of claim 22-31 wherein the launch is collinear with an axis of the multimode optical fibre.

Claim 26 (cancelled).

Claim 27 (currently amended): The ~~radio frequency optical communication distributed antenna~~ system of claim 26-31 further comprising a demodulator for demodulating the output of the photodetector.

Claim 28 (currently amended): The ~~radio frequency optical communication distributed antenna~~ system of claim 22-31 wherein the fibre has a core diameter of 62.5 μm and wherein the offset distance measured from the centre of the multimode fibre core to the centre of the optical radiation emitted from the transmitter is approximately 10 μm to approximately 30 μm .

Claim 29 (currently amended): The ~~radio frequency optical communication distributed antenna~~ system of claim 28 wherein the offset distance measured from the centre of the multimode fibre core to the centre of the optical radiation emitted from the transmitter is approximately 23 μm to approximately 30 μm .

Claim 30 (new): A method of supplying signals to a distributed antenna system having a multimode optical fibre link, an input signal node and an antenna, wherein the multimode optical fibre link comprises multimode optical fiber having a core, a laser to provide optical radiation for transmission over the multimode optical fiber and a photodetector arranged to receive optical radiation from the multimode optical fiber, the method comprising:

supplying the input signal node with a radio-frequency electrical signal consisting of an information signal modulated onto a radio-frequency carrier;

driving the laser directly with the radio-frequency electrical signal;

coupling optical radiation of the laser into the multimode optical fiber at an offset, the offset being selected to provide a stable operating regime for both amplitude and phase in the face of imperfections in the refractive index profile of the core; and

transducing optical radiation from the multimode optical fiber into the radio-frequency electrical signal using the photodetector for radiation thereof by the antenna.

Claim 31(new): A distributed antenna system comprising:

a multimode optical fibre link comprising multimode optical fiber, a laser to provide optical radiation for transmission over the multimode optical fiber; and a photodetector arranged to receive optical radiation from the multimode optical fiber;

an input signal node configured to receive a radio-frequency electrical signal consisting of an information signal modulated onto a radio-frequency carrier; and

an antenna,

wherein the laser is configured to be driven directly by the radio-frequency electrical signal and the photodetector is configured to transduce optical radiation from the multimode optical fiber into the radio-frequency electrical signal for radiation thereof by the antenna; and

wherein optical radiation of the laser is coupled into the multimode optical fiber at an offset, the offset being selected to provide a stable operating regime for both amplitude and phase in the face of imperfections in the refractive index profile of the core.